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L2: Entry 1 of 1

File: USPT

May 14, 2002

US-PAT-NO: 6387690

DOCUMENT-IDENTIFIER: US 6387690 B1

TITLE: Endoglucanases

DATE-ISSUED: May 14, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schulein; Martin	Copenhagen			DK
Andersen; Lene Nonboe	Aller.o slashed.d			DK
Lassen; S.o slashed.ren Flensted	Copenhagen			DK
Kauppinen; Markus Sakari	Copenhagen			DK
Lange; Lene	Valby			DK
Nielsen; Ruby Ilum	Farum			DK
Ihara; Michiko	Chiba			JP
Takagi; Shinobu	Chiba			JP

US-CL-CURRENT: 435/263; 435/209, 435/277, 510/320, 510/321

## CLAIMS:

What is claimed is:

1. An enzyme preparation comprising an endoglucanase or endoglucanase core having a first amino acid sequence of SEQ ID NO:79 and a second amino acid sequence of SEQ ID NO:80 wherein,

- (a) in position 3 of the first sequence, the amino acid is Trp, Tyr or Phe;
- (b) in position 4 of the first sequence, the amino acid is Trp, Tyr or Phe;
- (c) in position 8 of the first sequence, the amino acid is Arg, Lys or His;

(d) in position 9, 10, 12 and 14, respectively, of the first sequence, and in position 4 of the second sequence, the amino acid is any of the 20 naturally occurring amino acid residues, provided that, in the first amino acid sequence, (i) when the amino residue in position 12 is Ser, then the amino acid residue in position 14 is not Ser, and (ii) when the amino residue in position 12 is Gly, then the amino acid residue in position 14 is not Ala,

wherein the endoglucanase is obtained from a strain selected from the group consisting of *Crinipellis scapella*, *Macrophomina phaseolina*, *Myceliophthora thermophila*, *Sordaria fimicola*, *Volutella colletotrichoides*, *Thielavia terrestris*, *Acremonium* sp., *Exidia glandulosa*, *Fomes fomentarius*, *Spongipellis* sp., *Rhizophlyctis rosea*, *Rhizomucor pusillus*, *Phycomyces niteus*, *Chaetostylum fresenii*, *Diplodia gossypina*, *Ulospora bilgramii*, *Saccobolus dilutellus*, *Penicillium verruculosum*, *Penicillium chrysogenum*, *Thermomyces verrucosus*, *Diaporthe syngenesia*, *Colletotrichum lagenarium*, *Nigrospora* sp., *Xylaria hypoxylon*, *Nectria pinea*, *Sordaria macrospora*, *Thielavia thermophila*, *Chaetomium mororum*, *Chaetomium virscens*, *Chaetomium brasiliensis*, *Chaetomium cunicolorum*,

Syspastospora boninensis, Cladorrhinum foecundissimum, Scytalidium thermophila, Gliocladium catenulatum, Fusarium oxysporum ssp. lycopersici, Fusarium oxysporum ssp. passiflora, Fusarium solani, Fusarium anguioides, Fusarium poae, Humicola nigrescens, Humicola grisea, Panaeolus retirugis, Trametes sanguinea, Schizophyllum commune, Trichothecium roseum, Microsphaeropsis sp., Acsobolus stictioideus spej., Poronia punctata, Nodulisporum sp. and Cyllindrocarpon sp.

2. The enzyme preparation of claim 1, wherein the amino acid residue in position 9 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine and tryptophan.

3. The enzyme preparation of claim 1, wherein the amino acid residue in position 10 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine and tryptophan.

4. The enzyme preparation of claim 1, wherein the amino acid residue in position 12 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine and tryptophan.

5. The enzyme preparation of claim 1, wherein the amino acid residue in position 14 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine, tryptophan, glutamic acid and aspartic acid.

6. The enzyme preparation of claim 1, wherein the amino acid residue in position 4 of the second sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine, tryptophan, glutamic acid and aspartic acid.

7. The enzyme preparation of claim 1, wherein, in the first sequence, the amino acid residue in position 3 is tyrosine; or the amino acid residue in position 4 is tryptophan; or the amino acid residue in position 8 is lysine.

8. The enzyme preparation of claim 1, wherein the first sequence comprises an amino acid sequence selected from the group consisting of SEQ ID NO:102 and SEQ ID NO:103.

9. The enzyme preparation of claim 1 further comprising a cellulose-binding domain (CBD) of a 43 kD endoglucanase from Humicola insolens.

10. A method of providing colour clarification of laundry, which method comprising treating the laundry with a soaking, washing or rinsing liquor comprising an enzyme preparation of claim 1.

11. A laundry composition comprising the enzyme preparation of claim 1, and a compound selected from the group consisting of a surfactant, a builder compound, and a fabric softening agent.

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L2: Entry 1 of 1

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May 14, 2002

US-PAT-NO: 6387690

DOCUMENT-IDENTIFIER: US 6387690 B1

TITLE: Endoglucanases

DATE-ISSUED: May 14, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schulein; Martin	Copenhagen			DK
Andersen; Lene Nonboe	Aller.o slashed.d			DK
Lassen; S.o slashed.ren Flensted	Copenhagen			DK
Kaappinen; Markus Sakari	Copenhagen			DK
Lange; Lene	Valby			DK
Nielsen; Ruby Ilum	Farum			DK
Ihara; Michiko	Chiba			JP
Takagi; Shinobu	Chiba			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Novozymes A/S	Bagsvaerd			DK	03

APPL-NO: 09/ 229911 [PALM]

DATE FILED: January 13, 1999

## PARENT-CASE:

This application is a divisional of application Ser. No. 08/651,136 filed on May 21, 1996 now U.S. Pat. No. 6,001,639 and claims priority under 35 U.S.C. 119 of Danish application Ser. Nos. 0272/95 filed Mar. 17, 1995, 0888/95 filed Aug. 8, 1995, 0887/95 filed Aug. 8, 1995, 0886/95 filed Aug. 8, 1995, 0885/95 filed Aug. 8, 1995 and 0137/96 filed Feb. 12, 1996, the contents of which are fully incorporated herein by reference.

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DK	0272/95	March 17, 1995
DK	0885/95	August 8, 1995
DK	0886/95	August 8, 1995
DK	0887/95	August 8, 1995
DK	0888/95	August 8, 1995
DK	0137/96	February 12, 1996

INT-CL: [07] D06 M 16/00, C12 N 9/42, D21 C 1/00, C11 D 3/386

US-CL-ISSUED: 435/263; 435/209, 435/277, 570/320, 570/321

US-CL-CURRENT: 435/263; 435/209, 435/277, 510/320, 510/321

FIELD-OF-SEARCH: 435/6, 435/263, 435/209, 435/277, 435/91.2, 532/23.2, 532/24.3,  
510/320, 510/321

PRIOR-ART-DISCLOSED:

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0307564	March 1989	EP	
1368599	October 1974	GB	
WO 90/02790	March 1990	WO	
WO 91/10732	July 1991	WO	
WO 91/17243	November 1991	WO	
WO 91/17244	November 1991	WO	
WO 93/20193	October 1993	WO	
WO 94/07998	April 1994	WO	
WO 94/21801	September 1994	WO	
WO 94/26880	November 1994	WO	
WO 95/02043	January 1995	WO	
WO 95/24471	September 1995	WO	
WO 95/26398	October 1995	WO	

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Hernrissat, Cellulose, vol. 1, pp. 169-196 (1994).  
Beguin, Annu. Rev. Microbiol., vol. 44, pp. 219-248 (1990).  
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Dalb.O slashed.ge et al., Mol Gen Genet, vol. 243, pp. 253-260 (1994).  
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Van Arsdell et al., Bio/Technology, vol. 5, pp. 60-64 (1987).  
Enari, Chapter 4, Microbial Cellulases, pp. 183-223.  
Gonzalez et al., Appl. Microbiol. Biotechnol, vol. 38, pp. 370-375.  
Yamane et al., Methods in Enzymology, vol. 160, pp. 200-391 (1988).  
Ooi et al., Curr Genet, vol. 18, pp. 217-222 (1990).

ART-UNIT: 1652

PRIMARY-EXAMINER: Slobodyansky; Elizabeth

ABSTRACT:

The present invention relates to enzyme preparations consisting essentially of an enzyme which has cellulytic activity and comprises a first amino acid sequence consisting of 14 amino acid residues having the following sequence

Thr Arg Xaa Xaa Asp Cys Cys Xaa Xaa Xaa Cys Xaa 1 2 3 4 5 6 7 8 9 10 11 12 Trp Xaa 13  
14

and a second amino acid sequence consisting of 5 amino acid residues having the following sequence

Trp Cys Cys Xaa Cys 1 2 3 4 5

wherein, in position 3 of the first sequence, the amino acid is Trp, Tyr or Phe; in position 4 of the first sequence, the amino acid is Trp, Tyr or Phe; in position 8 of the first sequence, the amino acid is Arg, Lys or His; in position 9, 10, 12 and 14, respectively, of the first sequence, and in position 4 of the second sequence, the amino acid is any of the 20 naturally occurring amino acid residues with the provisos that, in the first amino acid sequence, (i) when the amino residue in position 12 is Ser, then the amino acid residue in position 14 is not Ser, and (ii) when the amino residue in position 12 is Gly, then the amino acid residue in position 14 is not Ala, performs very good in industrial applications such as laundry compositions, for biopolishing of newly manufactured textiles, for providing an abraded look of cellulosic fabric or garment, and for treatment of paper pulp. Further, the invention relates to DNA constructs encoding such enzymes, a method for providing a gene encoding for such enzymes, a method of producing the enzymes, enzyme preparations containing such enzymes, and the use of these enzymes for a number of industrial applications.

11 Claims, 8 Drawing figures

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L3: Entry 5 of 5

File: USPT

Dec 14, 1999

US-PAT-NO: 6001639DOCUMENT-IDENTIFIER: US 6001639 A

TITLE: Endoglucanases

DATE-ISSUED: December 14, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schulein; Martin	Copenhagen			DK
Andersen; Lene Nonboe	Aller.o slashed.d			DK
Lassen; S.o slashed.ren Flensted	Copenhagen			DK
Kauppinen; Markus Sakari	Copenhagen			DK
Lange; Lene	Valby			DK
Nielsen; Ruby Iium	Farum			DK
Ihara; Michiko	Chiba			JP
Takagi; Shinobu	Chiba			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Novo Nordisk A/S	Bagsvaerd			DK	03

APPL-NO: 08/ 651136 [PALM]

DATE FILED: May 21, 1996

## PARENT-CASE:

The instant application is a continuation of PCT/DK96/00105 filed Mar. 18, 1996.

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DK	0272/95	March 17, 1995
DK	0885/95	August 8, 1995
DK	0886/95	August 8, 1995
DK	0887/95	August 8, 1995
DK	0888/95	August 8, 1995
DK	0137/96	February 12, 1996

INT-CL: [06] D06 M 16/00, C12 N 9/42, D21 C 1/00, C11 D 3/386

US-CL-ISSUED: 435/263; 435/209, 435/277, 510/320, 510/321

US-CL-CURRENT: 435/263; 435/209, 435/277, 510/320, 510/321

FIELD-OF-SEARCH: 435/209, 435/263, 435/277, 510/320, 510/321

## PRIOR-ART-DISCLOSED:

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0307564	March 1989	EP	
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WO 95/24471	September 1995	WO	
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Henrissat, Biochem. J., vol. 280, pp. 309-316 (1991).  
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Sheppard et al., Gene, vol. 150, pp. 163-167 (1994).  
Wang et al., Gene, vol. 58, pp. 125-128 (1995).  
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Doi et al., Nucleic Acids Research, vol. 18, No. 19, p. 5884 (1990).  
Van Arsdell et al., Bio/Technology, vol. 5, pp. 60-64 (1987).  
Enari, Chapter 4, Microbial Cellulases, pp. 183-223.  
Gonzalez et al., Appl. Microbiol. Biotechnol, vol. 38, pp. 370-375 (1992).  
Yamane et al., Methods in Enzymology, vol. 160, pp. 200-391 (1988).  
Ooi et al., Curr Genet, vol. 18, pp. 217-222 (1990).

ART-UNIT: 162

PRIMARY-EXAMINER: Carlson; Karen Cochrane

ASSISTANT-EXAMINER: Slobodyansky; Elizabeth

## ABSTRACT:

The present invention relates to enzyme preparations consisting essentially of an enzyme which has cellulytic activity and comprises a first amino acid sequence consisting of 14 amino acid residues having the following sequence

Thr Arg Xaa Xaa Asp Cys Cys Xaa Xaa (SEQ ID NO:79) 1 2 3 4 5 6 7 8 9 - Xaa Cys Xaa  
Trp Xaa 10 11 12 13 14

and a second amino acid sequence consisting of 5 amino acid residues having the following sequence

Trp Cys Cys Xaa Cys (SEQ ID NO:80) 1 2 3 4 5

wherein, in position 3 of the first sequence, the amino acid is Trp, Tyr or Phe; in position 4 of the first sequence, the amino acid is Trp, Tyr or Phe; in position 8 of the first sequence, the amino acid is Arg, Lys or His; in position 9, 10, 12 and 14, respectively, of the first sequence, and in position 4 of the second sequence, the amino acid is any of the 20 naturally occurring amino acid residues with the provisos that, in the first amino acid sequence, (i) when the amino residue in position 12 is Ser, then the amino acid residue in position 14 is not Ser, and (ii) when the amino residue in position 12 is Gly, then the amino acid residue in position 14 is not Ala, performs very good in industrial applications such as laundry compositions, for biopolishing of newly manufactured textiles, for providing an abraded look of cellulosic fabric or garment, and for treatment of paper pulp. Further, the invention relates to DNA constructs encoding such enzymes, a method for providing a gene encoding for such enzymes, a method of producing the enzymes, enzyme preparations containing such enzymes, and the use of these enzymes for a number of industrial applications.

11 Claims, 8 Drawing figures



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File: USPT

Dec 14, 1999

US-PAT-NO: 6001639DOCUMENT-IDENTIFIER: US 6001639 A

TITLE: Endoglucanases

DATE-ISSUED: December 14, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schulein; Martin	Copenhagen			DK
Andersen; Lene Nonboe	Aller.o slashed.d			DK
Lassen; S.o slashed.ren Flensted	Copenhagen			DK
Kauppinen; Markus Sakari	Copenhagen			DK
Lange; Lene	Valby			DK
Nielsen; Ruby Iium	Farum			DK
Ihara; Michiko	Chiba			JP
Takagi; Shinobu	Chiba			JP

US-CL-CURRENT: 435/263; 435/209, 435/277, 510/320, 510/321

## CLAIMS:

We claim:

1. An enzyme preparation comprising an endoglucanase or endoglucanase core having a first amino acid sequence of SEQ ID NO:79 and a second amino acid sequence of SEQ ID NO:80 wherein,

in position 3 of the first sequence, the amino acid is Trp, Tyr or Phe;

in position 4 of the first sequence, the amino acid is Trp, Tyr or Phe;

in position 8 of the first sequence, the amino acid is Arg, Lys or His;

in position 9, 10, 12 and 14, respectively, of the first sequence, and in position 4 of the second sequence, the amino acid is any of the 20 naturally occurring amino acid residues with the provisos that, in the first amino acid sequence, (i) when the amino residue in position 12 is Ser, then the amino acid residue in position 14 is not Ser, and (ii) when the amino residue in position 12 is Gly, then the amino acid residue in position 14 is not Ala, wherein said endoglucanase is obtained from a strain selected from the group consisting of Crinipellis scapella, Macrophomina phaseolina, Myceliophthora thermophila, Sordaria fimicola, Volutella colletotrichoides, Thielavia terrestris and Acremonium sp.

2. The enzyme preparation according to claim 1, wherein the amino acid residue in position 9 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine and tryptophan.

3. The enzyme preparation according to claim 1, wherein the amino acid residue in

position 10 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine and tryptophan.

4. The enzyme preparation according to claim 1, wherein the amino acid residue in position 12 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine and tryptophan.

5. The enzyme preparation according to claim 1, wherein the amino acid residue in position 14 of the first sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine, tryptophan, glutamic acid and aspartic acid.

6. The enzyme preparation according to claim 1, wherein the amino acid residue in position 4 of the second sequence is selected from the group consisting of proline, threonine, valine, alanine, leucine, isoleucine, phenylalanine, glycine, cysteine, asparagine, glutamine, tyrosine, serine, methionine, tryptophan, glutamic acid and aspartic acid.

7. The enzyme preparation according to claim 1, wherein, in the first sequence, the amino acid residue in position 3 is tyrosine; or the amino acid residue in position 4 is tryptophan; or the amino acid residue in position 8 is lysine.

8. The enzyme preparation according to claim 1, wherein the first sequence comprises an amino acid sequence selected from the group consisting of SEQ ID NO:102 and SEQ ID NO:103.

9. The enzyme preparation of claim 1 further comprising a cellulose-binding domain (CBD) of an 43 kD endoglucanase from *Humicola insolens*.

10. A method of providing colour clarification of laundry, which method comprising treating the laundry with a soaking, washing or rinsing liquor comprising an enzyme preparation according to claim 1.

11. A laundry composition comprising the enzyme preparation according to claim 1, and a compound selected from the group consisting of a surfactant, a builder compound, and a fabric softening agent.

## WEST Search History

DATE: Thursday, March 06, 2003

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ</i>			
L11	L7 and py<=1996	130	L11
L10	(endo adj3 glucanase) same thielavia	2	L10
L9	(endoglucanase) same thielavia	9	L9
L8	L7	130	L8
L7	L6	130	L7
L6	(endoglucanase or cellul\$) same thielavia	130	L6
L5	L4	86	L5
<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
L4	(endo adj 3 glucanase or cellul\$) same thielavia	86	L4
L3	(endo adj 3 glucanase or cellul\$) with thielavia	65	L3
L2	5958082	2	L2
L1	6001639	5	L1

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L1: Entry 1 of 5

File: USPT

May 14, 2002

US-PAT-NO: 6387690

DOCUMENT-IDENTIFIER: US 6387690 B1

TITLE: Endoglucanases

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 2. Document ID: US 6268328 B1

L1: Entry 2 of 5

File: USPT

Jul 31, 2001

US-PAT-NO: 6268328

DOCUMENT-IDENTIFIER: US 6268328 B1

TITLE: Variant EGIII-like cellulase compositions

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 3. Document ID: US 6184019 B1

L1: Entry 3 of 5

File: USPT

Feb 6, 2001

US-PAT-NO: 6184019

DOCUMENT-IDENTIFIER: US 6184019 B1

TITLE: Cellulases, the genes encoding them and uses thereof

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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☐ 4. Document ID: US 6146858 A

L1: Entry 4 of 5

File: USPT

Nov 14, 2000

US-PAT-NO: 6146858

DOCUMENT-IDENTIFIER: US 6146858 A

TITLE: Method for producing cellulose derivatives

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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5. Document ID: US 6001639 A

L1: Entry 5 of 5

File: USPT

Dec 14, 1999

US-PAT-NO: 6001639DOCUMENT-IDENTIFIER: US 6001639 A

TITLE: Endoglucanases

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMC	Draw Desc	Image
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L2: Entry 2 of 2

File: USPT

Sep 28, 1999

US-PAT-NO: 5958082DOCUMENT-IDENTIFIER: US 5958082 A

TITLE: Garments with considerable variation in abrasion level

DATE-ISSUED: September 28, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lund; Henrik	Copenhagen N			DK
Kalum; Lisbeth	Copenhagen .o slashed.			DK

US-CL-CURRENT: 8/102; 435/263, 8/107, 8/114, 8/138, 8/401

## CLAIMS:

We claim:

1. A process for providing a new pair of jeans made from dyed twill fabric and having localised variations in the colour density of the fabric providing the jeans with a stone-washed or abraded look corresponding to a delta remission value (.DELTA.R) higher than 11 and a reflection of a first area of the jeans fabric less than 12%, the reflection and the .DELTA.R value being determined by

a. measuring the reflection of a first and a second area of the fabric at a wavelength of 420 nm using a reflectometer having a measuring diaphragm with a diametrical dimension of 27 mm, the first area being located within the area of the upper half of the zipper cover visibly having the highest colour density, and the second area being located at least about 5 cm from any stitching present on the jeans,

b. expressing the reflection in % related to 100% reflection, and

c. calculating the .DELTA.R value as the difference between the % reflection of the first and the second area, respectively,

the process comprising the steps of

i. sewing a pair of jeans from newly manufactured dyed twill fabric, and

ii. subjecting the pair of jeans to an abrasion treatment with an efficient amount of a cellulolytic enzyme in an aqueous medium essentially free of bleaching chemicals, wherein said cellulolytic enzyme is a monocomponent endoglucanase obtainable from a fungal strain belonging to the species *Thielavia terrestris* or an analogue of said monocomponent endoglucanase.

2. The process according to claim 1, wherein the abrasion treatment further includes treatment with pumice in an amount of 0-80% relative to the amount which is conventionally used for stonewashing jeans with pumice in a conventional stonewashing process.

3. The process according to claim 1, wherein the .DELTA.R value is higher than

12.

4. The process according to claim 1, wherein the % reflection of the first area is less than 11.

5. The process according to claim 1, wherein the pH of the aqueous medium is from about 4 to about 8.

6. The process according to claim 1, wherein the treatment is carried out at a temperature below 75.degree. C.

7. The process according to claim 1, wherein the species is *Thielavia terrestris*, NRRL 8126.

8. The process according to claim 1, wherein the monocomponent endoglucanase has the amino acid sequence listed in SEQ ID NO:2.

9. The process according to claim 1, wherein the monocomponent endoglucanase is encoded by a DNA construct comprising a DNA sequence selected from the group consisting of: (a) the DNA sequence listed in SEQ ID NO: 1 or an analogue thereof and (b) the DNA sequence obtainable from the plasmid in *Saccharomyces cerevisiae*, DSM 10081 or an analogue thereof, wherein said analogue

i. is at least 75% homologous with the DNA sequence shown in SEQ ID NO: 1 or the DNA sequence obtainable from the plasmid in *Saccharomyces cerevisiae*, DSM 10081 or

ii. hybridizes with the same nucleotide probe as the DNA sequence shown in SEQ ID NO: 1 or the DNA sequence obtainable from the plasmid in *Saccharomyces cerevisiae*, DSM 10081 when the hybridization is performed in a solution containing 5 .times.Standard Saline Citrate (SSC) at 45.degree. C. and the hybrids are washed in a solution comprising 2.times.SSC at 50.degree. C., or

iii. encodes a polypeptide which is at least 70% homologous with a polypeptide encoded by a DNA sequence comprising the DNA sequence shown in SEQ ID NO:1 or the DNA sequence obtainable from the plasmid in *Saccharomyces cerevisiae*, DSM 10081, or

iv. encodes a polypeptide which is immunologically reactive with an antibody raised against the purified endoglucanase encoded by the DNA sequence shown in SEQ ID NO:1 or the DNA sequence obtainable from the plasmid in *Saccharomyces cerevisiae*, DSM 10081.

10. A process according to claim 11 wherein the jeans are indigo-dyed denim with a sulphur-bottom or a sulphur-top.

11. A process according to claim 1, wherein a desizing treatment is combined with the abrasion treatment.

12. A new pair of jeans made from dyed twill fabric and having localised variations in the colour density of the fabric providing the jeans with a stone-washed or abraded look, wherein said jeans are produced using the method according to claim 11.

13. The pair of jeans according to claim 12, wherein the .DELTA.R value is higher than 12.

14. The pair of jeans according to claim 12, wherein the warp of the jeans fabric is dyed with a dye selected from the group consisting of sulfur dyes, direct dyes, naphthol dyes, reactive dyes, and vat dyes.

15. The pair of jeans according to claim 14, wherein the fabric warp is dyed with indigo.

16. The pair of jeans according to claim 15 which is a pair of blue denim jeans.

17. The pair of jeans according to claim 16, wherein the % reflection of the first area is less than 11.



## Print

Sep 28, 1999

DATE-ISSUED: September 28, 1999

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lund; Henrik	Copenhagen N			DK
Kalum; Lisbeth	Copenhagen .o slashed.			DK

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Novo Nordisk A/S	Bagsvaerd			DK	03

APPL-NO: 08/ 872437 [PALM]  
DATE FILED: June 10, 1997

COUNTRY	APPL-NO	APPL-DATE
DK	1276/96	November 13, 1996

INT-CL: [06] D06 M 16/00

US-CL-ISSUED: 8/102; 8/107, 8/114, 8/138, 8/401, 435/263  
US-CL-CURRENT: 8/102; 435/263, 8/107, 8/114, 8/138, 8/401

FIELD-OF-SEARCH: 8/102, 8/107, 8/110, 8/111, 8/158, 8/159, 8/138, 8/114, 8/401,  
435/263

PRIOR-ART-DISCLOSED:

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0 307 564	March 1989	EP	
WO 90/07569	July 1990	WO	
WO 95/09225	April 1995	WO	
WO 96/29397	September 1996	WO	

PRIMARY-EXAMINER: Diamond; Alan

## ABSTRACT:

Garment, e.g. a new pair of jeans, made from dyed twill fabric and having localised variations in the colour density of the fabric providing the jeans with a stone-washed or abraded look corresponding to a delta remission value (.DELTA.R) higher than 11, and a reflection of a first area of the jeans fabric of less than 12%, the reflection and .DELTA.R value being determined by a) measuring the reflection of the first and a second area of the fabric at a wavelength of 420 nm using a reflectometer having a measuring diaphragm with a diametrical dimension of 27 mm, the first area being located within the area of the upper half of the zipper cover visibly having the highest colour density (i.e. being relatively more coloured), and the second area being located at least about 5 cm from any stitching present on the jeans, b) expressing the reflection in % related to a white standard (100% reflection), and c) calculating the .DELTA.R value as the difference between the % reflection of the first and the second area, respectively; and a process for the manufacturing of such garments.

17 Claims, 0 Drawing figures

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 31 through 40 of 130 returned.****31. Document ID: US 20020020668 A1**

L11: Entry 31 of 130

File: PGPB

Feb 21, 2002

PGPUB-DOCUMENT-NUMBER: 20020020668

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020020668 A1

TITLE: Microfiltration using activated carbon

PUBLICATION-DATE: February 21, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Laustsen, Mads Aage	Lyngby		DK	
Nielsen, Soren Bo	Vaerlose		DK	
Jakobsen, Sune	Vaerlose		DK	
Hansen, Kim Uhre	Kalundborg		DK	

US-CL-CURRENT: [210/639](#); [210/650](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
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<a href="#">KWIC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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**32. Document ID: US 20020019009 A1**

L11: Entry 32 of 130

File: PGPB

Feb 14, 2002

PGPUB-DOCUMENT-NUMBER: 20020019009

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020019009 A1

TITLE: High throughput screening (HTS) assays

PUBLICATION-DATE: February 14, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Roggen, Erwin Ludo	Lyngby		DK	
Ernst, Steffen	Broenshoej		DK	
Pedersen, Henrik	Bagsvaerd		DK	

US-CL-CURRENT: [435/7.1](#); [435/6](#), [435/7.21](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>
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<a href="#">KWIC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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**33. Document ID: US 20020009435 A1**

L11: Entry 33 of 130

File: PGPB

Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020009435  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020009435 A1

TITLE: Polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 24, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schneider, Palle	Lynge		DK	
Danielsen, Steffen	Copenhagen O		DK	

US-CL-CURRENT: 424/94.4; 435/189, 435/325, 435/69.1, 510/226, 510/300, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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RMIC	Draw Desc	Image
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## 34. Document ID: US 20020009434 A1

L11: Entry 34 of 130

File: PGPB

Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020009434  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020009434 A1

TITLE: Polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 24, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Danielsen, Steffen	Copenhagen		DK	
Schneider, Palle	Ballerup		DK	

US-CL-CURRENT: 424/94.4; 435/189, 510/226, 510/320

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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RMIC	Draw Desc	Image
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## 35. Document ID: US 20020007052 A1

L11: Entry 35 of 130

File: PGPB

Jan 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020007052  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020007052 A1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 17, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schneider, Palle	Lynge		DK	
Danielsen, Steffen	Copenhagen O		DK	

US-CL-CURRENT: 536/23.2; 435/189, 435/325, 435/69.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 36. Document ID: US 20020006652 A1

L11: Entry 36 of 130

File: PGPB

Jan 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020006652

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020006652 A1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

PUBLICATION-DATE: January 17, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Danielsen, Steffen	Copenhagen O		DK	
Schneider, Palle	Ballerup		DK	

US-CL-CURRENT: 435/189; 435/325, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 37. Document ID: US 6528298 B1

L11: Entry 37 of 130

File: USPT

Mar 4, 2003

US-PAT-NO: 6528298

DOCUMENT-IDENTIFIER: US 6528298 B1

TITLE: .alpha.-amylase mutants

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 38. Document ID: US 6524827 B2

L11: Entry 38 of 130

File: USPT

Feb 25, 2003

US-PAT-NO: 6524827

DOCUMENT-IDENTIFIER: US 6524827 B2

TITLE: 2,6-.beta.-D-fructan hydrolase enzyme and processes for using the enzyme

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 39. Document ID: US 6521434 B2

L11: Entry 39 of 130

File: USPT

Feb 18, 2003

US-PAT-NO: 6521434

DOCUMENT-IDENTIFIER: US 6521434 B2

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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RAW	Draw Desc	Image
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40. Document ID: US 6518042 B1

L11: Entry 40 of 130

File: USPT

Feb 11, 2003

US-PAT-NO: 6518042

DOCUMENT-IDENTIFIER: US 6518042 B1

TITLE: Process for making DNA libraries in filamentous fungal cells using a novel cloned gene involved in the mismatch repair system of filamentous fungal cells

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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RAW	Draw Desc	Image
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L7 and py<=1996	130

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**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 51 through 60 of 130 returned.**☐ 51. Document ID: US 6451754 B1

L11: Entry 51 of 130

File: USPT

Sep 17, 2002

US-PAT-NO: 6451754

DOCUMENT-IDENTIFIER: US 6451754 B1

TITLE: Process for preparing detergent tablet

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 52. Document ID: US 6440911 B1

L11: Entry 52 of 130

File: USPT

Aug 27, 2002

US-PAT-NO: 6440911

DOCUMENT-IDENTIFIER: US 6440911 B1

TITLE: Enzymatic cleaning compositions

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 53. Document ID: US 6429000 B1

L11: Entry 53 of 130

File: USPT

Aug 6, 2002

US-PAT-NO: 6429000

DOCUMENT-IDENTIFIER: US 6429000 B1

TITLE: Pectin degrading enzymes from *Bacillus licheniformis*

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 54. Document ID: US 6425975 B1

L11: Entry 54 of 130

File: USPT

Jul 30, 2002

US-PAT-NO: 6425975

DOCUMENT-IDENTIFIER: US 6425975 B1

TITLE: Process for concentrating soluble and colloidal substances in process waters

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 55. Document ID: US 6420331 B1

L11: Entry 55 of 130

File: USPT

Jul 16, 2002

US-PAT-NO: 6420331

DOCUMENT-IDENTIFIER: US 6420331 B1

TITLE: Detergent compositions comprising a mannanase and a bleach system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 56. Document ID: US 6410498 B1

L11: Entry 56 of 130

File: USPT

Jun 25, 2002

US-PAT-NO: 6410498

DOCUMENT-IDENTIFIER: US 6410498 B1

TITLE: Laundry detergent and/or fabric care compositions comprising a modified transferase

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 57. Document ID: US 6410292 B1

L11: Entry 57 of 130

File: USPT

Jun 25, 2002

US-PAT-NO: 6410292

DOCUMENT-IDENTIFIER: US 6410292 B1

TITLE: Nucleic acids encoding polypeptides having haloperoxidase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 58. Document ID: US 6410291 B1

L11: Entry 58 of 130

File: USPT

Jun 25, 2002

US-PAT-NO: 6410291

DOCUMENT-IDENTIFIER: US 6410291 B1

TITLE: Polypeptides having haloperoxidase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 59. Document ID: US 6399564 B1

L11: Entry 59 of 130

File: USPT

Jun 4, 2002

US-PAT-NO: 6399564

DOCUMENT-IDENTIFIER: US 6399564 B1

TITLE: Detergent tablet



Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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60. Document ID: US 6399561 B1

L11: Entry 60 of 130

File: USPT

Jun 4, 2002

US-PAT-NO: 6399561

DOCUMENT-IDENTIFIER: US 6399561 B1

TITLE: Methods and compositions for bleaching a dye in solution

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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L7 and py<=1996	130

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**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 71 through 80 of 130 returned.**☐ 71. Document ID: US 6323007 B1

L11: Entry 71 of 130

File: USPT

Nov 27, 2001

US-PAT-NO: 6323007

DOCUMENT-IDENTIFIER: US 6323007 B1

TITLE: 2,6-.beta.-D-fructan hydrolase enzyme and processes for using the enzyme

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 72. Document ID: US 6323002 B1

L11: Entry 72 of 130

File: USPT

Nov 27, 2001

US-PAT-NO: 6323002

DOCUMENT-IDENTIFIER: US 6323002 B1

TITLE: Methods for modifying the production of a polypeptide

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 73. Document ID: US 6309872 B1

L11: Entry 73 of 130

File: USPT

Oct 30, 2001

US-PAT-NO: 6309872

DOCUMENT-IDENTIFIER: US 6309872 B1

TITLE: Polypeptides having glucoamylase activity and nucleic acids encoding same

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 74. Document ID: US 6309871 B1

L11: Entry 74 of 130

File: USPT

Oct 30, 2001

US-PAT-NO: 6309871

DOCUMENT-IDENTIFIER: US 6309871 B1

TITLE: Polypeptides having alkaline .alpha.-amylase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 75. Document ID: US 6303561 B1

L11: Entry 75 of 130

File: USPT

Oct 16, 2001

US-PAT-NO: 6303561

DOCUMENT-IDENTIFIER: US 6303561 B1

TITLE: Detergent tablet

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 76. Document ID: US 6296671 B1

L11: Entry 76 of 130

File: USPT

Oct 2, 2001

US-PAT-NO: 6296671

DOCUMENT-IDENTIFIER: US 6296671 B1

TITLE: Enzymatic treatment method

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 77. Document ID: US 6274538 B1

L11: Entry 77 of 130

File: USPT

Aug 14, 2001

US-PAT-NO: 6274538

DOCUMENT-IDENTIFIER: US 6274538 B1

TITLE: Detergent compositions

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 78. Document ID: US 6270968 B1

L11: Entry 78 of 130

File: USPT

Aug 7, 2001

US-PAT-NO: 6270968

DOCUMENT-IDENTIFIER: US 6270968 B1

TITLE: Method of providing a hybrid polypeptide exhibiting an activity of interest

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 79. Document ID: US 6268328 B1

L11: Entry 79 of 130

File: USPT

Jul 31, 2001

US-PAT-NO: 6268328

DOCUMENT-IDENTIFIER: US 6268328 B1

TITLE: Variant EGIII-like cellulase compositions

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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80. Document ID: US 6251845 B1

L11: Entry 80 of 130

File: USPT

Jun 26, 2001

US-PAT-NO: 6251845

DOCUMENT-IDENTIFIER: US 6251845 B1

TITLE: Detergent compositions comprising an oxygenase enzyme and cofactor to remove body soils

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 81 through 90 of 130 returned.**☐ 81. Document ID: US 6221644 B1

L11: Entry 81 of 130

File: USPT

Apr 24, 2001

US-PAT-NO: 6221644

DOCUMENT-IDENTIFIER: US 6221644 B1

TITLE: Polypeptides having phytase activity and nucleic acids encoding same

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 82. Document ID: US 6204234 B1

L11: Entry 82 of 130

File: USPT

Mar 20, 2001

US-PAT-NO: 6204234

DOCUMENT-IDENTIFIER: US 6204234 B1

TITLE: Cleaning compositions comprising a specific oxygenase

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 83. Document ID: US 6197070 B1

L11: Entry 83 of 130

File: USPT

Mar 6, 2001

US-PAT-NO: 6197070

DOCUMENT-IDENTIFIER: US 6197070 B1

TITLE: Detergent compositions comprising alpha combination of .alpha.-amylases for malodor stripping

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 84. Document ID: US 6187740 B1

L11: Entry 84 of 130

File: USPT

Feb 13, 2001

US-PAT-NO: 6187740

DOCUMENT-IDENTIFIER: US 6187740 B1

TITLE: Alkaline detergent compositions comprising a specific cellulase

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 85. Document ID: US 6187580 B1

L11: Entry 85 of 130

File: USPT

Feb 13, 2001

US-PAT-NO: 6187580

DOCUMENT-IDENTIFIER: US 6187580 B1

TITLE: Pectate lyases

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 86. Document ID: US 6187578 B1

L11: Entry 86 of 130

File: USPT

Feb 13, 2001

US-PAT-NO: 6187578

DOCUMENT-IDENTIFIER: US 6187578 B1

TITLE: Carboxypeptidases and nucleic acids encoding the same

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 87. Document ID: US 6165769 A

L11: Entry 87 of 130

File: USPT

Dec 26, 2000

US-PAT-NO: 6165769

DOCUMENT-IDENTIFIER: US 6165769 A

TITLE: Pectin degrading enzymes from Bacillus licheniformis

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 88. Document ID: US 6165761 A

L11: Entry 88 of 130

File: USPT

Dec 26, 2000

US-PAT-NO: 6165761

DOCUMENT-IDENTIFIER: US 6165761 A

TITLE: Carbohydrate oxidase and use thereof in baking

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 89. Document ID: US 6146865 A

L11: Entry 89 of 130

File: USPT

Nov 14, 2000

US-PAT-NO: 6146865

DOCUMENT-IDENTIFIER: US 6146865 A

TITLE: Nucleic acids encoding polypeptides having pyranose oxidase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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└ 90. Document ID: US 6146428 A

L11: Entry 90 of 130

File: USPT

Nov 14, 2000

US-PAT-NO: 6146428

DOCUMENT-IDENTIFIER: US 6146428 A

TITLE: Enzymatic treatment of denim

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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Search Results - Record(s) 111 through 120 of 130 returned.

☐ 111. Document ID: US 5853702 A

L11: Entry 111 of 130

File: USPT

Dec 29, 1998

US-PAT-NO: 5853702

DOCUMENT-IDENTIFIER: US 5853702 A

TITLE: *Penicillium purpurogenum* mutanases and nucleic acids encoding same

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 112. Document ID: US 5834280 A

L11: Entry 112 of 130

File: USPT

Nov 10, 1998

US-PAT-NO: 5834280

DOCUMENT-IDENTIFIER: US 5834280 A

TITLE: Glucose oxidases obtained from a *cladosporium*

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 113. Document ID: US 5821102 A

L11: Entry 113 of 130

File: USPT

Oct 13, 1998

US-PAT-NO: 5821102

DOCUMENT-IDENTIFIER: US 5821102 A

TITLE: Nucleic acids encoding polypeptides having *absidia* lipase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 114. Document ID: US 5795760 A

L11: Entry 114 of 130

File: USPT

Aug 18, 1998

US-PAT-NO: 5795760

DOCUMENT-IDENTIFIER: US 5795760 A

TITLE: Purified *Myceliophthora* laccases and nucleic acids encoding same

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 115. Document ID: US 5695985 A

L11: Entry 115 of 130

File: USPT

Dec 9, 1997

US-PAT-NO: 5695985

DOCUMENT-IDENTIFIER: US 5695985 A

TITLE: Thermophilic fungal expression system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 116. Document ID: US 5604129 A

L11: Entry 116 of 130

File: USPT

Feb 18, 1997

US-PAT-NO: 5604129

DOCUMENT-IDENTIFIER: US 5604129 A

TITLE: Thermophilic fungal expression system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 117. Document ID: US 5602004 A

L11: Entry 117 of 130

File: USPT

Feb 11, 1997

US-PAT-NO: 5602004

DOCUMENT-IDENTIFIER: US 5602004 A

TITLE: Thermophilic fungal expression system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 118. Document ID: US 5432075 A

L11: Entry 118 of 130

File: USPT

Jul 11, 1995

US-PAT-NO: 5432075

DOCUMENT-IDENTIFIER: US 5432075 A

TITLE: Low molecular weight thermostable .beta.-D-glucosidase from acidothermus cellulolyticus

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 119. Document ID: US 4966850 A

L11: Entry 119 of 130

File: USPT

Oct 30, 1990

US-PAT-NO: 4966850

DOCUMENT-IDENTIFIER: US 4966850 A

TITLE: Production of thermostable xylanase and cellulase

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMNC	Draw Desc	Image
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└ 120. Document ID: US 4610800 A

L11: Entry 120 of 130

File: USPT

Sep 9, 1986

US-PAT-NO: 4610800

DOCUMENT-IDENTIFIER: US 4610800 A

TITLE: Method for unclogging drainage pipes

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KMNC	Draw Desc	Image
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☐ 121. Document ID: US 4243752 A

L11: Entry 121 of 130

File: USPT

Jan 6, 1981

US-PAT-NO: 4243752

DOCUMENT-IDENTIFIER: US 4243752 A

TITLE: Production of increased yields of cellulolytic enzymes from *Thielavia terrestris* and separating methods therefor

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 122. Document ID: US 4081328 A

L11: Entry 122 of 130

File: USPT

Mar 28, 1978

US-PAT-NO: 4081328

DOCUMENT-IDENTIFIER: US 4081328 A

TITLE: Production of cellulase by a thermophilic *thielavia terrestris*

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 123. Document ID: JP 61078384 A

L11: Entry 123 of 130

File: JPAB

Apr 21, 1986

PUB-NO: JP361078384A

DOCUMENT-IDENTIFIER: JP 61078384 A

TITLE: PREPARATION OF CELLULASE

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 124. Document ID: JP 2002539793 W WO 200056900 A2 AU 200040257 A EP 1194572 A2 CN 1367838 A

L11: Entry 124 of 130

File: DWPI

Nov 26, 2002

DERWENT-ACC-NO: 2000-638265

DERWENT-WEEK: 200307

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TITLE: Promoters useful for expressing heterologous genes and producing polypeptides such as hormones, receptors, antibodies or enzymes in a fungal cell

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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☐ 125. Document ID: WO 9961651 A2 JP 2002516116 W AU 9942139 A EP 1080210 A2

L11: Entry 125 of 130

File: DWPI

Dec 2, 1999

DERWENT-ACC-NO: 2000-147028

DERWENT-WEEK: 200239

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TITLE: Recombinant production of polypeptides, used for obtaining, e.g. antibodies

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KWC](#) | [Draw Desc](#) | [Image](#)

☐ 126. Document ID: WO 9812307 A1 JP 2000514311 W AU 9742007 A EP 937138 A1 BR 9711479 A CN 1230987 A

L11: Entry 126 of 130

File: DWPI

Mar 26, 1998

DERWENT-ACC-NO: 1998-217251

DERWENT-WEEK: 200059

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TITLE: Cellulase enzyme variants - having amino acid changes which improve properties e.g. activity, sensitivity to surfactants, pH optimum or stability

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KWC](#) | [Draw Desc](#) | [Image](#)

☐ 127. Document ID: JP 61078384 A

L11: Entry 127 of 130

File: DWPI

Apr 21, 1986

DERWENT-ACC-NO: 1986-141763

DERWENT-WEEK: 198622

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TITLE: Cellulase prodn. - comprises culturing Trichoderma, Thielavia or Sporotrichum microorganisms in medium contg. L-sorbose

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KWC](#) | [Draw Desc](#) | [Image](#)

☐ 128. Document ID: DE 3013627 A CA 1143683 A DK 8001581 A FI 8001137 A FR 2453895 A GB 2047710 A GB 2047710 B JP 55144886 A JP 82033947 B NO 8001053 A SE 8002828 A US 4243752 A

L11: Entry 128 of 130

File: DWPI

Oct 16, 1980

DERWENT-ACC-NO: 1980-75619C

DERWENT-WEEK: 198043

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TITLE: Cellulase prodn. by Thielavia terrestris cultivation - in medium contg. glycerol to increase prodn. of beta-glucosidase

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)

[KWC](#) | [Draw Desc](#) | [Image](#)

129. Document ID: US 4081328 A CA 1075181 A DE 2704742 A DK 7700507 A GB  
1546544 A JP 53096386 A JP 83011195 B NO 7700242 A SE 7700991 A

L11: Entry 129 of 130

File: DWPI

Mar 28, 1978

DERWENT-ACC-NO: 1978-36414A

DERWENT-WEEK: 197820

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TITLE: Highly thermostable cellulase enzyme - prepd. by aerobic culture of Thielavia  
terrestris (nr1 8126) in a cellulose-contg medium

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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KWIC	Draw Desc	Image
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130. Document ID: JP 52094497 A

L11: Entry 130 of 130

File: DWPI

Aug 9, 1977

DERWENT-ACC-NO: 1977-67554Y

DERWENT-WEEK: 197738

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TITLE: L-Amino acids prepn. - by cultivation of microorganisms on medium contg. plant  
cellulose

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
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